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WINDOW ON THE NETHERLANDS

HISTORY REPEATING! SPATIAL DYNAMICS IN DUTCH START-UP RATES (1996–2013)

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ABSTRACT

The number of start-ups has skyrocketed in the Netherlands in the past ten years. Has this growth been accompanied by a shift in the spatial patterns of start-ups? This *Windows on the Netherlands* puts this question to the test and maps the dynamics in the spatial patterns of start-ups for the period 1996–2013. This is done at the disaggregated spatial level of the municipality. Even though we observe a slight shift of entrepreneurship to the east of the country, the overall spatial patterns in start-up intensity are highly stable: start-up rates are highest in the most urbanised municipalities. As the small spatial scale of analysis potentially allows for much variability, the found stability in the spatial patterns lends additional empirical support to the idea that patterns in start-up rates are highly persistent.

Key words: Start-ups, regional patterns, entrepreneurship, persistence

INTRODUCTION

Entrepreneurship, measured as the start-up of new firms,[1] is on the increase in the Netherlands. In 1996, the Chambers of Commerce registered 90,000 new establishments. In 2013, the number had skyrocketed to 185,000. From a country in which start-up rates were among the lowest in Europe, the Netherlands has transformed itself into one that is topping the tables. Hartog and Wennekers (2009) summarise this transformation as the Dutch entrepreneurship revolution. In this account, we analyse how the different regions in the Netherlands have contributed to the rise of entrepreneurship. In other words, how have the spatial patterns of start-ups evolved between 1996 and 2013?

With this focus, we present an empirical contribution to a stream of studies that address the evolution of spatial patterns of start-ups (Fritsch & Mueller 2007; Andersson & Koster 2011; Fotopoulos 2014). As start-ups play a crucial role in economic rejuvenation and growth, understanding the regional pattern of start-up and its evolution is relevant both from an academic and a policy viewpoint (Sternberg 2011). Understanding the evolution of the spatial patterns informs the scope for policy intervention aimed at increasing local entrepreneurship (Fritsch & Mueller 2007). The typical finding is that persistence in spatial start-up patterns is the norm. Given that business formation is a dynamic process, this finding is not automatic: there is no stock of start-ups that is transferred to the next year, leading to automatic persistence in the patterns (Andersson & Koster 2011). If locational preferences of entrepreneurs change, the spatial distribution of start-ups can follow suit

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relatively quickly. The main contribution of this *Windows on the Netherlands* is to extend the empirical evidence regarding the persistence in spatial start-up patterns.

The Netherlands forms an interesting case to study the spatial evolution of start-ups. Given the small scale of the country, the national market can be reached relatively easily from each location. This provides entrepreneurs with ample opportunities to adjust the location without losing access to their markets. Given these circumstances, combined with the rapid overall increase in start-ups, persistence in the spatial patterns is by no means a given. The Netherlands thus provide an interesting test case of the idea that spatial patterns in start-up rates are highly persistent through time.

By analysing the persistence of the start-up patterns, the study also offers an explorative account of the geography of start-ups in the Netherlands and its dynamics. There is evidence that, under the influence of agglomeration disadvantages (congestion) and increased possibilities for people to fulfil residential preferences outside cities while retaining access to the cities, less urbanised regions gain ground both in terms of productivity (Broersma & van Dijk 2008) and employment (OECD 2011; Louter & van Eikeren 2012). At the same time, land prices suggest that the most agglomerated areas are still the focal points of economic dynamics (De Groot *et al.* 2010). The dynamics in the geography of start-ups can reflect potentially changed locational preferences of entrepreneurs.

SOURCES OF PERSISTENCE

Spatial start-up patterns are the outcome of localised individual actions in response to perceived economic opportunities. Most people start their business close to where they live or have worked (Michelacci & Silva 2007; Sternberg 2011; Dahl & Sorenson 2012), and a sizeable share of all business start-ups operate from home (Mason *et al.* 2011). Starting a business outside the region where the entrepreneur lives or works is rarely taken into consideration, since resources are limited and the start-up phase is uncertain (Stam 2007). In addition, social ties form a local anchor (Dahl & Sorenson 2012). Given the spatial inertia of entrepreneurs, the local environment for starting a new firm is crucial (Wagner & Sternberg 2004) and entrepreneurs are either encouraged or hindered by it (García 2014). If such local conditions change slowly, it can be expected that there are persistent spatial differences in start-up activity. Indeed, studies by Fritsch and Mueller (2007), van Stel and Suddle (2008), Andersson and Koster (2011) and Fotopoulos (2014) document a large degree of persistence in the spatial start-up patterns in Germany, the Netherlands, Sweden and the UK respectively. Persistence is the norm.

Andersson and Koster (2011) propose two explanations. First, start-ups are driven by regional characteristics that change slowly. Typically, these factors determine the demand and supply conditions for new firms and they hardly change over time. As a result, the outcome is likely to be stable over time as well. Second, there may be self-reinforcing processes fuelled by demonstration and learning effects that reconfirm the regional pattern of start-ups.

Agglomeration economies are a prime example of slowly changing regional characteristics that govern business formation. They increase the opportunities for starting a business by providing knowledge spillovers, access to specialised inputs and services, qualified labour and easy access to consumers (Delmar & Davidsson 2000; Audretsch & Fritsch 2002; van Oort & Stam 2006). Furthermore, the market for ideas is thickest in agglomerated areas as suggested in the knowledge spillover theory of entrepreneurship (Acs *et al.* 2009). Agglomerated areas have differentiated markets for inputs and a large and diverse consumer base which may induce more start-ups (Bosma *et al.* 2008). Moreover, there is a selection effect: people living in urban areas are more inclined to become business founders than people living in rural areas (Rotefoss & Kolvereid 2005; van Stel & Suddle 2008).

In addition to the slowly changing regional determinants of start-ups, there may be self-reinforcing processes in start-up activity itself. In regions with higher levels of entrepreneurship, role models show how entrepreneurship

is an accepted career choice (Sternberg 2011) and local knowledge on how to effectively run a business may be readily available. Wagner and Sternberg (2004) find that the propensity to become self-employed is higher for persons who live in regions with high start-up rates. Also, a high level of start-up activity may stimulate the development of supportive formal and informal institutions. These recursive mechanisms contribute to sustained high levels of regional start-up activity. Indeed, Andersson and Koster (2011) show that persistence is strongest in regions with the highest start-up rates. Audretsch and Keilbach (2005) show that such self-reinforcing processes are generally stronger in urban areas and this suggest a persistent concentration of start-up activity in urban areas particularly. For the Netherlands this would be the western part of the country with Amsterdam, Utrecht and Rotterdam as its focal points (the Randstad area).

Although agglomeration benefits are important, there are counteracting forces that may induce start-up rates to increase outside the core urban areas. Given the tight connection between the place of residence and the location of a start-up, changing residential preferences of entrepreneurs may change regional patterns of start-up activity. Although not specific to entrepreneurs, De Groot *et al.* (2008) observe that it is difficult for potential movers to realise their residential preferences in the economic core of the Netherlands. Entrepreneurs, particularly with small firms, are relatively flexible in choosing their residential location and may adjust accordingly (Koster & Venhorst 2014). Moreover, negative agglomeration effects, such as congestion and increasing input prices (Broersma & van Dijk 2008), may deter start-ups in the most agglomerated areas.

DATA AND MEASUREMENT

In the Netherlands, the registration of firm units is performed by the regional Chambers of Commerce. Even though the infrastructure for following entrepreneurship over time is in place, a longitudinal account is not without issues because of definition changes. The main change between 1996 and 2013 is the inclusion, since 2010, of 'free professions' in the register. This group represents economic activities that are embodied in the provider. The number of start-ups by free professionals is sizeable and this inflates figures in 2010 and onwards in comparison to earlier years. Unfortunately, this group cannot be separated in the data. The start-up patterns are studied at the municipal level, reflecting the local nature of entrepreneurship, and analyses are based on the population of new establishments: 90,000 in 1996 to 185,000 in 2013. To calculate start-up rates, we use the labour market approach. The start-up rate is the number of new establishments in a year divided by the working age population (15–65).

ENTREPRENEURSHIP IN THE NETHERLANDS 1996–2013

The national trend – The period under investigation is characterised by a steady increase in start-up activity, particularly since 2003 (Figure 1). The graph shows that the start-up rate has all but doubled in 18 years. The increase reflects the growth of the service industry[2] that is characterised by relatively high levels of start-up activity. Also, increasing fragmentation of demand offers smaller firms niche markets not covered by existing firms (Mason *et al.* 2011). Parallel to the development of the economy, the institutional framework has become more supportive (Hartog & Wennekers 2009). Formal conditions for starting firms, for example concerning credit ratings and obligatory industry-specific training, have been relaxed. Informal institutions appear to have changed too: Hartog *et al.* (2011), using longitudinal survey data, find an increasingly positive attitude towards business ownership.

Specific for the Netherlands is the spectacular increase in the number of solo self-employed or own account workers: 500,000 in 2003 and nearly 800,000 in 2013 (Statistics Netherlands 2014). In response to the relaxation of the rules and regulations for business ownership and a push from employers for a more flexible labour market,

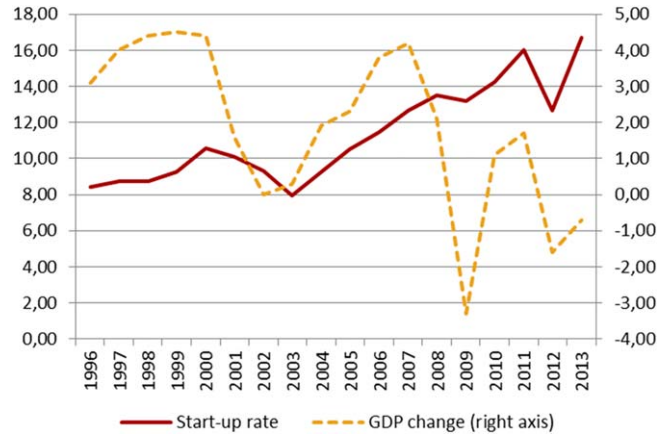

Figure 1. *Economic growth and start-up rates. [Color figure can be viewed at wileyonlinelibrary.com.]*

many employees have started to offer services on their own account. This specific characteristic of the growth has resulted in a debate whether the increase in start-ups also implies an increase in innovative and growing new firms (Stam 2014), which arguably is the defining element of a 'real' entrepreneurship revolution. In addition, given the locational flexibility of micro-firms, the surge in solo self-employment emphasises the role of residential preferences of entrepreneurs in the dynamics of the spatial start-up patterns.

Figure 1 shows the relationship between start-up rates and GDP change. While the two economic busts starting in 2000 and in 2011 reduced the start-up intensity, the 2007 bust had no substantial depressing effect. It is possible that a sizeable group of employees turned to business ownership in order to create opportunities for income in 2007. This is in line with the fact that unemployment rates remained low in the first years following the 2007 bust (Statistics Netherlands 2015b). Also, it may account for the surge in solo self-employment during the economic bust. The economic dip in 2011 followed relatively quickly and the dampening effect of a flight into self-employment may not have been available anymore. Also, the prolonged duration of the economic downturn may have compromised the confidence of entrepreneurs. Llopis *et al.* (2015) argue that start-up rates are more sensitive to the business cycle if shocks are persistent. The share of people that see good opportunities for a start-up has indeed dropped from 41 per cent to 33 per cent between 2007 and 2013 lending support to this idea. In addition, the fear of failure increased in the same period (van Stel *et al.* 2014).

REGIONAL PATTERNS AND PERSISTENCE

Figures 2 and 3 summarise the start-up dynamics in Dutch municipalities (NUTS 4 2013 definition, N = 408). In the maps, the municipalities have been grouped into quartiles on the basis of their respective start-up rates. This method of division allows for assessing the relative positions of the municipalities and potential changes in the spatial patterns of firm formation independent of the concurrent national growth in start-up rates.

The maps in Figure 2 show the local start-up rates in 1996 and 2013. The maps reveal a large degree of persistence in the start-up patterns.[3] Both in 1996 and 2013, the northern part of the Randstad area, including the cities of Amsterdam (A) and Utrecht (U), recorded the highest start-up rates (see also Bosma & Sternberg 2014). The municipalities bordering the two main motorways to and from Amsterdam also show elevated

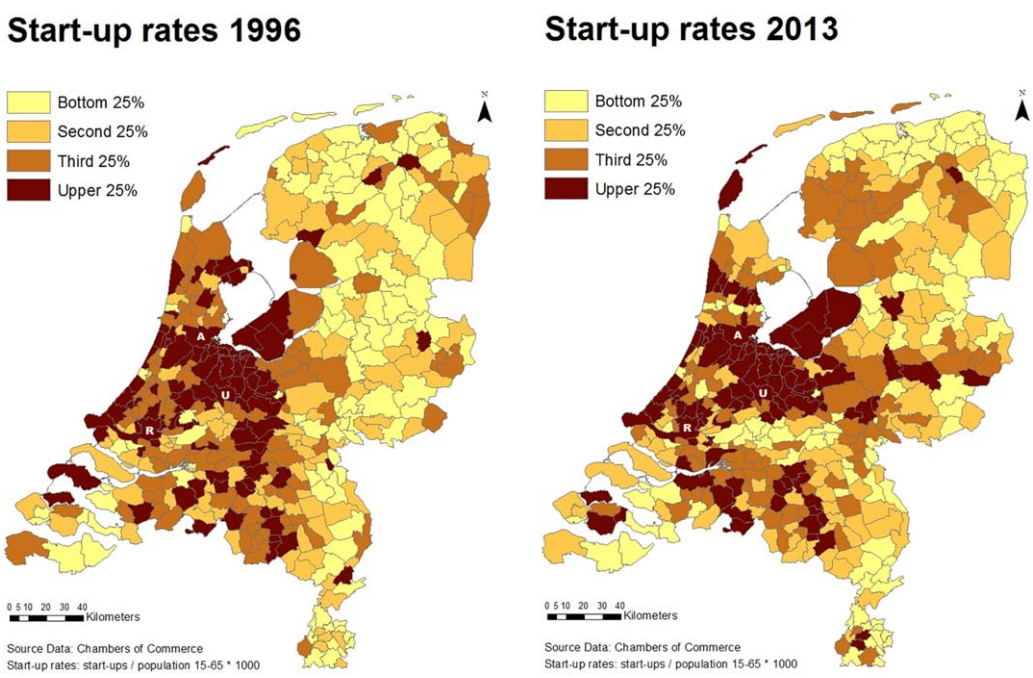

Figure 2. *The Dutch start-up map in 1996 and 2013. [Color figure can be viewed at wileyonlinelibrary.com.]*

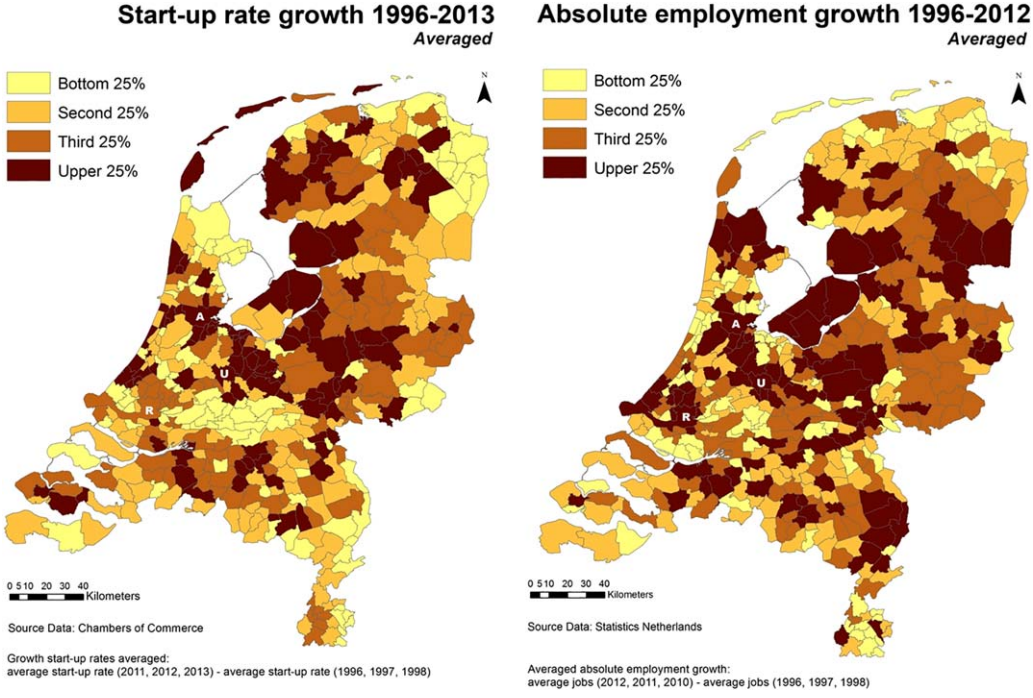

Figure 3. *Start-up and employment dynamics between 1996 and 2013. [Color figure can be viewed at wileyonlinelibrary.com.]*

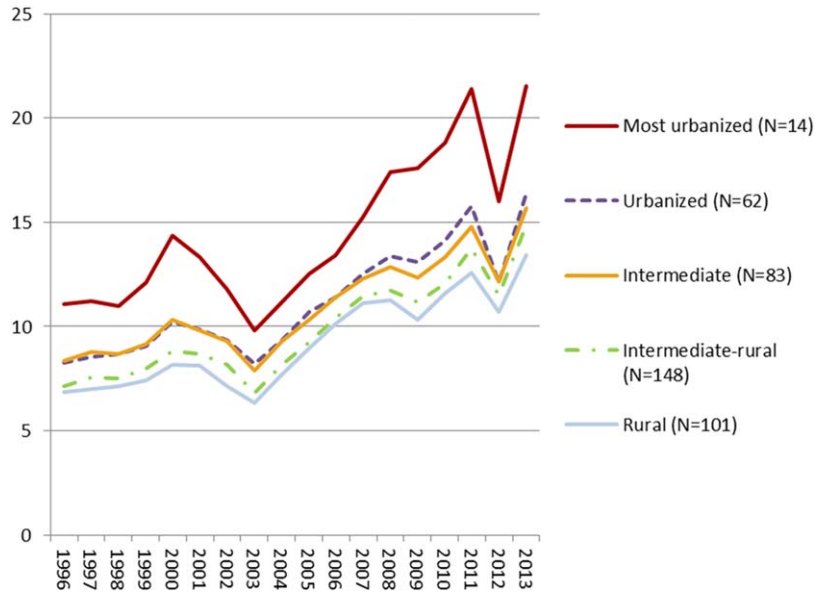

Figure 4. *Start-up rates along the urban hierarchy. [Color figure can be viewed at wileyonlinelibrary.com.]*

levels of start-ups, illustrating that motorways can extend markets as they provide access to potential clients and suppliers (Holl 2004). The rates then taper off in a more or less concentric pattern from the economic core to the periphery. Correlations between start-up rates in year t and t+n confirm the visual interpretation. After a rapid decrease in the first years, they remain stable and after 17 years, the correlation is still over 0.60. Earlier studies on Germany (Fritsch & Mueller 2007), Sweden (Andersson & Koster 2011) and the Netherlands (van Stel & Suddle 2008) report similar results. The results reconfirm that persistence in the pattern of the start-up rate is the norm even if assessed at the small spatial scale of the municipality, which allows for more volatility in the start-up rates.

Even though persistence is prolific, the maps in Figure 2 do suggest small changes. In particular, the maps indicate a shift towards regions east of the Randstad region. The geography of the growth in start-up rates (Figure 3, left) further illustrates this shift. The map shows the development of start-up rates between 1996 and 2013. The largest increase in start-up rates took place in regions east and northeast of the Randstad area. This pattern strongly resembles the regional changes in overall employment between 1996 and 2012 (Figure 3, right) and it suggests increased economic activity outside the economic core (see also Louter & van Eikeren 2012). Still, the growth in start-up rates is also substantial in the core cities. This may signify the over-representation of the service industry in urban areas as well as an over-representation of own account workers potentially as a result of the residential preferences of this group. It also speaks to the benefits of cities due to agglomeration economies and a strong entrepreneurship culture.

The overall effect of agglomeration, without considering the relative location of the municipalities, is indeed still strong. This can be concluded from Figure 4 that documents the relative growth of start-ups across five urban levels as defined by Statistics Netherlands (1992). The levels of urbanity are established on the basis of the average number of addresses within a one-kilometre radius of each address in a municipality. The most urbanised municipalities have a value over 2,500 addresses, while rural municipalities have a value below 500. The level and development of the start-up rates follow the

urban hierarchy closely with more agglomerated municipalities having the most start-up activity. The most urbanised group only contains 14 municipalities (3%), but accounts for almost 26 per cent of all start-ups in 2013. Also the growth in recent years is biggest in the most urbanised municipalities, which reaffirms the positive role of agglomeration on start-ups in the Netherlands. This is in line with Bosma and Sternberg (2014), who find high start-up rates in the core cities in the Netherlands. For the whole of Europe, however, they find no evidence of an urban premium regarding overall start-up rates.

CONCLUSION

This *Windows on the Netherlands* addressed the evolution in the spatial distribution of Dutch start-up rates in the period 1996–2013. The growth in business formations, importantly driven by an increase in the number of own account workers, has taken off in 2003. It was not, however, accompanied by a pronounced shift in the spatial patterns of start-ups. Given the overall growth of start-up activity and the spatial flexibility enjoyed by entrepreneurs as a result of the small spatial scale of the Netherlands, this is an interesting empirical confirmation of earlier findings that point to persistence in the spatial patterns of start-ups. The found persistence reiterates for the Dutch case that policies towards stimulating entrepreneurship should have a long time horizon. Also, it suggests that local policies are unlikely to launch specific municipalities up the raking in terms of start-up rates (Fritsch & Mueller 2007). Slowly changing path dependent processes prevail.

We find mixed evidence regarding a potential move away from the agglomerated areas in the Netherlands as suggested in some studies. The north side of the Randstad area, Amsterdam and surroundings, consistently shows the highest start-up rates. The rates taper off towards the more peripheral areas. The growth in start-ups is also concentrated in the most agglomerated areas, which reiterates the role of cities as seedbeds of start-up activity. Complementing this, however, is the pronounced growth in start-up rates in regions east and northeast of the economic core. This suggests convergence with the economic core.

Notes

1. See Davidsson (2004) for a conceptual discussion on entrepreneurship and the ways in which it can be measured.
2. In the study period, the share of total jobs in the service industry grew from 69 per cent to 75 per cent (Statistics Netherlands 2015a)
3. For an empirical explanation of the pattern of Dutch start-up rates, please refer to Bosma *et al.* (2008)

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